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Reciprocal Relationships between Music Television Exposure and Adolescents' Sexual Behaviors: The Role of Perceived Peer Norms

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Abstract

A three-wave panel study (2010-2011) was conducted among 515 adolescents in Belgium (Flanders) (*mean age* = 14.07) to examine the role of perceived male and female peer norms in the reciprocal relationship between music television exposure and sexual behavior. Structural equation models revealed several unexpected findings. First, the previously reported reciprocal relationships between sexual behavior and sexual media use appears to be dependent on the gender of the adolescent. It was found that music television exposure directly affected sexual behavior in *boys*, while, the reverse effect, the direct influence of sexual behavior on music television exposure, was found among *girls*. Second, results showed an indirect impact of sexual behavior on boys' and girls' music television exposure through perceptions of male peers' sexual behavior. More specifically, sexually active *boys* and *girls* were demonstrated to believe that many of their male and female peers were also sexually active; however, among *boys*, the perceptions of the sexual activities of same-gender peers resulted in increased music television exposure, whereas among *girls*, the perceptions of the sexual activities of male peers resulted in decreased music television exposure. The discussion focuses on the explanation and understanding of these (unexpected) findings in the context of gender differences in sexual socialization.

Keywords: adolescence, music television, perceived peer norms, sexual behavior, gender

Reciprocal Relationships between Music Television Exposure and Adolescents' Sexual Behaviors: The Role of Perceived Peer Norms

Introduction

The initiation of sexual behavior in adolescence has received considerable scholarly attention because of its importance in the development of healthy sexuality (e.g. Vanwesenbeeck et al. 2006 (NL)). One of the predictors of adolescent sexual behavior may be exposure to music videos (e.g. Brown et al. 2006 (U.S.); Martino et al. 2006 (U.S.); Vandenbosch, Vervloessem and Eggermont 2013 (Belgium)). Music videos are popular among Belgian and U.S. adolescents (Vandenbosch and Eggermont 2012 (Belgium); Ward 2002 (U.S.)), but have been repeatedly criticized for containing a large amount of sexual content and promoting a recreational view of sexual activities involving active men, but objectified women (Arnett 2002 (U.S.); Vandenbosch et al. 2013 (Belgium)). Exposure to such messages has been connected to earlier initiation of sexual behavior among U.S. (e.g. Brown and L'Engle 2009 (U.S.)) and European (e.g. Vandenbosch and Eggermont 2013 (Belgium)) adolescents. Some of these studies (e.g. Bleakley, Hennessy, Fishbein and Jordan 2008 (U.S.); Kim et al. 2006 (U.S.)) have also supported a reciprocal association.

The primary objective of this three-wave panel study of 515 Belgian adolescent boys and girls was to further elucidate the reciprocal relationship between music television exposure and sexual behavior by exploring the mediating role of perceived peer norms, with special attention to the role of gender. As such, the current study aimed to improve scholarly understanding of the relationship between sexual media and sexual behavior in four ways. The first contribution is the study's focus on whether perceived peer norms (i.e. adolescent perceptions of the proportion of peers who have already engaged in sexual behaviors) may serve as an explanatory mechanism within the relationships between music television exposure and sexual behavior (e.g. Collazo 2004 (Puerto Rico)). This objective relies on

social cognitive theory (Bandura 2001 (Can.)), cognitive dissonance theory (Festinger 1957 (U.S.)) and a limited number of studies that supported the role of this variable as a mediator of sexual media effects (e.g. Chia 2006 (U.S.), Martino, Collins, Kanouse, Elliot and Berry. 2005 (U.S.)).

A second contribution of the study is the consideration of gender differences in perceived peer norms. Most previous studies of this variable have examined perceived sexual peer norms without regard to the gender of peers (e.g. Martino et al. 2005 (U.S.)), whereas the frameworks of both social cognitive theory (Bandura 2001) and cognitive dissonance theory (Festinger 1957 (U.S.)) suggest that it may be relevant to differentiate between the perceived sexual norms of male and female peers. Therefore, we want to explore whether the proposed relationships differ depending on the gender of the peer group under perception.

As a third contribution, this study uses three-wave panel data collected on early adolescents. The study thereby responds to a scholarly call to test relationships among music television exposure, perceived peer norms, and sexual behavior with data obtained from three waves (Martino et al. 2005 (U.S.)). In addition, prior research on the studied relationship has particularly focused on middle- and late-adolescent samples (e.g. Eggermont 2005 (Belgium)), but these relationships have not yet been addressed among early adolescents. It can, however, be argued that young adolescents are also likely to be affected by perceived peer norms (e.g. Vandenbosch and Eggermont 2012 (Belgium)) and may even be more at risk for negative health outcomes when initiating sexual behaviors (e.g. O'Donnell, O'Donnell and Stueve 2011 (U.S.)). Furthermore, television use peaks during early adolescence (Huston 1992 (U.S.)), which highlights the importance of examining the influence of (music) television viewing in an early adolescent sample.

A fourth contribution refers to the study's focus on different types of sexual behavior. Research on adolescent sexual behavior has recently been criticized for narrowing sexual

behavior in adolescence down to the initiation of sexual intercourse. However, sexual behavior is more diverse (Impett, Schooler and Tolman 2006 (U.S.); Tolman and McClelland 2011 (U.S.) and may also refer to less explicit, petting-oriented sexual behavior. Therefore, the current study addressed adolescents' sexual behavior by a count measure based on the initiation of deep kissing, intimate touching as well as sexual intercourse (Hennessy, Bleakley, Fishbein and Jordan 2008 (U.S.)).

This study was conducted in Belgium, a Western European country. As previous research on the relationship between sexual media exposure and sexual behavior has primarily been conducted in a U.S. context, the Belgian background is thus particularly relevant for the interpretation of the study's findings. Furthermore, as U.S. produced media content is typically distributed to multiple countries (e.g. De Bens and de Smaele 2001; Livingstone 2003), it is important to examine media's influence outside of the U.S. And, when doing so, it is imperative to consider specific cultural contexts. For Belgium, this cultural context can be described as sexually liberal, referring to findings on relatively liberal attitudes toward sexual issues among Belgian adolescents (Vandenbosch and Eggermont 2012 (Belgium)). In addition, a recent, qualitative study (Van Damme and Biltereyst 2013) showed that, despite the fact that Belgian boys and girls were firm believers of equality between the sexes, they also believed that the society in general and parents in particular tolerate casual sex more for boys than for girls. These results hereby support the existence of a sexual double standard among Belgian adolescents. The study further showed that girls believed more than boys that sexual intimacy should be part of a loving, long-term relationship, while boys often made statements that could be interpreted as a performance of hegemonic masculinity (e.g. requesting more explicit sexual material on television). With regard to sexual activities, various studies have indicated similarities between Belgian and U.S. adolescents. For instance, 33% of U.S. adolescents in 9th and 10th grades reported having engaged in sexual

intercourse (Brown and L'Engle 2009 (U.S.)), compared to 29% of Belgian pupils in 9th and 11th grades (Bertem and Van Rossem 2009 (Belgium)). Additionally, the average age of first intercourse, which is approximately 17 years, is similar in the United States (CDCP 2005) and most European countries (Avery and Lazdane 2008).

Furthermore, similarities in gender socialization have also been demonstrated between U.S. and Belgian adolescents. For instance, research on both Belgian adolescents (Eggermont 2006; Vandenbosch and Eggermont 2012) and U.S. college students (Ward and Friedman 2006 (U.S.); Ward 2002 (U.S.)) has shown that both groups similarly endorse gender-stereotypical beliefs regarding men being sexually dominant and women being sexualized objects. Moreover, among both Belgian adolescents (Vandenbosch and Eggermont 2012 (Belgium)) and U.S. college students (Ward 2002 (U.S.)), the endorsement of gender-stereotypical attitudes is stronger among boys than among girls.

In addition, scholars have emphasized similarities regarding media exposure. Research indicates that both Belgian (Eggermont 2006 (Belgium)) and U.S. (Schooler, Sorsoli, Kim and Tolman 2009 (U.S.)) adolescents watch television for approximately 21 hours per week on average. With regard to music videos, Van den Bulck and Beullens (2005) indicated that the majority (63.6%) of Belgian adolescents reported watching music videos at least several times a week, while about one third (35.6%) indicated to watch them daily. In addition, they found that girls watched music television more often than boys, though watching music videos was popular in both groups. These findings hereby confirm the popularity of music television among male and female young audiences, also in Belgium. Furthermore, Belgian and U.S. adolescents are frequently exposed to similar content, largely as a result of the extensive flow of U.S.-produced material to Western Europe (ter Bogt, Engels, Bogers and Kloosterman 2010 (NL.)) and the dominance of U.S. shows on European television (De Bens and de Smaele 2001). These similarities imply that findings from studies

conducted in the United States may also be applicable to a Belgian sample and that, in turn, research conducted within a Belgian context may also be relevant for other countries, such as the U.S.

The Process of Music Television Exposure –> Perceived Peer Norms –> Sexual Behavior

The theory that is most frequently cited to explain the influence of sexual media on an individual's sexual behavior is social cognitive theory (Bandura 2001). Social cognitive theory (Bandura, 2001) assumes that environmental stimuli may predict one's behavior. Moreover, environmental input-behavioral output relationships are expected to work through a multifaceted dynamic process in which learning processes shape the subsequent behavior. One of these learning processes is learning about behavior, attitudes and beliefs by observing one or more models. Apart from other factors (e.g. value preferences), this learning process is likely to be stronger when the role model is attractive and thus draws more attention (Bandura 2001).

Because content analyses have demonstrated that attractive male and female role models in music videos frequently engage in sexual behaviors (e.g. Vandenbosch et al. 2013 (Belgium)), adolescent viewers of music videos may be more inclined to adopt these behaviors. Various longitudinal studies (e.g. Collins et al. 2004 (U.S.)) have supported this reasoning showing that exposure to sexual content predicts earlier initiation of sexual behaviors. For instance, analyses of a sample of 4,808 early adolescents indicated that those who reported watching television 2 hours or more per day were more likely to initiate sexual intercourse than those who watched less television (Ashby et al. 2006 (U.S.)). Brown et al. (2006 (U.S.)) confirmed these findings for exposure to music, movies and magazines. A recent Belgian study added that frequent users of sexually explicit websites were 5 times more likely to initiate sexual intercourse than non-users (Vandenbosch and Eggermont 2012

(Belgium)). Based on social cognitive theory (Bandura 2001) and empirical research (e.g. Brown et al. 2006 (U.S.)), we therefore hypothesized the following:

H1: Exposure to music television positively predicts higher levels of sexual behavior.

Although the importance of social cognitive theory in explaining this relationship is theoretically sound, the question arises as to whether the empirical research to date has covered the entire process. Empirical studies based on social cognitive theory have primarily studied a fairly direct relationship between the messages in media content and subsequent behaviors (e.g. Collins et al. 2004 (U.S.)). Nevertheless, this theory may also inspire research on explanatory models involving cognitive mediators, such as perceptions about peers' involvement in particular behaviors.

Regarding this particular mediator, social cognitive theory (Bandura 2001) assumes that observing a rewarded behavior leads to the subsequent perception that this behavior is frequently performed by others. This perception, is likely to affect situations in which an individual considers performing the rewarded behavior (Bandura 2001; Martino et al. 2005 (U.S.)). For this study, this notion would indicate that the relationship between watching music videos (which frequently feature attractive portrayals of sexual activity) and sexual behavior is likely to develop through the perception that many peers are involved in sexual behaviors. Three studies on sexual media effects have provided partial support for this assumption. A cross-sectional study of Ward, Epstein, Caruthers and Merriwether (2011 (U.S.)) among 796 male college students found that reading men's magazines was associated with an earlier sexual debut through beliefs about peer norms regarding casual and risky sexual behaviors. A second, two-wave panel study found that perceived peer norms (Wave 1) marginally significantly mediated the relationship between sexual media exposure (Wave 1) and sexual initiation (Wave 2) among 1292 12- to 16-year-olds (Martino et al. 2005 (U.S.)). Third, a two-wave panel study examined 460 U.S. adolescent boys and girls aged 16 to 18 and

demonstrated that sexual media exposure (Wave 1) leads to increased sexual behavior (Wave 2) by strengthening adolescents' perceptions of social pressure to have sex (Wave 1) (Bleakley et al. 2011b (U.S.)).

Although these studies were limited by using a cross-sectional or two-wave panel design for testing a three-step process (i.e. exposure to sexual media messages (1) leads to perceptions about peers' behavior (2), which, in turn, affect one's own sexual behavior (3)), the literature thus contains some indications of the mediating role of peer norms. However, empirical research has not yet addressed the conditions under which social cognitive theory expects this mediator to be of particular importance.

Social cognitive theory adds that perceived similarities between the role model and the observer, regarding, for instance, age and gender, may enhance learning processes (Bandura 1986, 2001). Similarity with a role model is believed to grasp the attention of the observer, and thus to enable the learning process. In addition, an individual is more likely to believe that he or she is also capable of conducting a particular behavior if a similar other is capable of conducting this behavior (Bandura 1986). For the current study, this notion would imply that adolescents may especially learn from the rewarded sexual behaviors of peers of the same gender. As a mediator in the relationship between exposure to music television and sexual behavior, the perceived sexual activities of *same-gender* peers may thus be more important. Ward's findings (2002) support this reasoning. Her study of U.S. college students demonstrated a significant relationship between watching sitcoms and women's beliefs about sexually active male and female peers. However, the relationship with sexually active female peers appeared to be more robust. In addition, the study indicated that men's exposure to music videos predicted perceptions of the sexual behavior of male peers but not of female peers. Together, these findings suggest that the relationship between exposure to music television and sexual behavior would be mediated or explained to a greater extent in male

viewers by perceptions of male peers' sexual activities as opposed to perceptions of female peers' sexual activities. However, girls would be especially interested in the behavior of other girls. For girls, the perceptions of female, rather than male, peers' sexual activities would be a more important mediator in the studied relationships among girls.

Consistent with studies on the importance of cognitive mediators and with social cognitive theory, and given the relevance of gender, we proposed testing the following hypotheses:

H2a: Perceptions of peers' sexual activities mediate the relationship between exposure to music television and sexual behavior.

H2b: As a mediator in the relationship between exposure to music television and sexual behavior, perceptions of peers' sexual activities are more important among adolescents of the same gender.

The Reverse Process of Sexual Behavior –> Perceived Peer Norms –> Music Television Exposure

Although social cognitive theory (Bandura 2001) assumes that sexual media exposure is a precursor to sexual behavior, cognitive dissonance theory (Festinger 1957) assumes that adolescents with higher levels of sexual experience are more likely to select media that support their involvement in sexual interactions compared with those who have less experience. According to cognitive dissonance theory (Festinger 1957), individuals actively avoid situations and information in which dissonance may occur and prefer information that is consistent with their own cognitions and behaviors. When sexually active adolescents watch television, they may thus prefer watching television content that promotes sexual activities, such as music television (Vandenbosch et al. 2013 (Belgium)), above television content that pays little attention to sexual behavior. Moreover, following the selective exposure theory (Zillmann and Bryant 1985 (U.S.)), which is strongly related to cognitive dissonance theory,

these adolescents may particularly choose to watch programs that confirm and support their own behavior. For instance, it has been reported that people who tend to be aggressive prefer to watch violent television content because it allows them to justify their own behavior as being normal (Huesmann 1982 (U.S.)).

A combination of social cognitive theory, which holds that media use affects sexual behavior, and cognitive dissonance theory and selective exposure theory, which assumes that sexual behaviors guide media preferences, suggests that exposure to sexual messages and sexual behavior are reciprocally related. Scholars (e.g. Bleakley, Hennessy, Fishbein and Jordan 2008 (U.S.); Kim et al. 2006 (U.S.)) have found evidence for this theoretical reasoning and specified that the relationship between sexual media exposure and sexual behavior operates in both directions. For instance, while Collins et al. (2004 (U.S.)) found that sexual television exposure predicted sexual behavior, Kim et al. (2006 (U.S.)) analyzed the same data and found that sexual behavior also predicted sexual television exposure. Bleakley et al. (2008 (U.S.)) used a longitudinal web-based survey of young adolescents and concluded that sexually active adolescents are more likely to expose themselves to sexual media content and that those exposed to sexual media content are more likely to progress in their sexual activity. To complement the hypothesis that sexual media exposure positively affects sexual behavior, we hypothesized the following:

H3: Sexual behavior positively predicts higher levels of exposure to music television.

In the current literature, relatively little attention is devoted to this "reverse" relationship. More precisely, research has rarely explored how sexual behavior predicts sexual media exposure. In this view, the framework of cognitive dissonance theory suggests that cognitive mechanisms may explain the inverse relationship (Festinger 1957).

Cognitive dissonance theory and the research that is based on this theory (e.g. Aubrey 2007 (U.S.)) explicitly argue that the relationship between consonant behaviors, such as

sexual media exposure and sexual behavior, is not direct but can be explained by cognitions that underlie such behaviors. More specifically, cognitive dissonance theory (Festinger 1957; Goethals 1986) indicates that perceptions regarding peers may have a mediating role, as the theory suggests that individuals seek to obtain cognitive consonance between their own behaviors and their beliefs about the behaviors of their *reference group*. For this study, this indicates, first, that those who are sexually active (or not) assume that most peers are sexually active (or not) and, second, that those who believe that their peers are sexually active (or not) prefer to consume media content in accordance with their beliefs about those peers.

Empirical support for the first relationship has been found by Martens et al. (2006 (U.S.)), who reported that students who were frequently involved in sexual behavior were more likely to view this behavior as normative. Chia (2006 (U.S.)) added that adolescents who are sexually permissive tend to think that their peers are also sexually permissive. Empirical support for the second relationship has been suggested by research on normative perceptions of reference groups and media use. The longitudinal study conducted by Kim et al. (2006 (U.S.)) indicated that adolescents who believe that their peers have a positive attitude toward sex are more likely to consume sexual television content. In addition, Bleakly, Hennessy and Fishbein (2011 (U.S.)) found that perceived normative pressure from relevant others significantly predicted U.S. adolescents' consumption of sexual media content.

Furthermore, there are indications that the mechanism of perceptions of peers' sexual activities that may explain sexual behavior-sexual media use relationships is particularly relevant when the reference group is of the same gender (Festinger 1957; Goethals 1986). Research shows that there is an overall tendency for early adolescent girls and boys to prefer same-sex peers (Bukowski, Sippola and Hoza 1999 (Can.)) and to form dyad friendships with them (Clark and Ayers 1992 (U.S.); Rose and Smith 2009 (U.S.)). Moreover, during early adolescence peers and friends become important sources of information about the

appropriateness of certain behaviors (Brown, 1990 (U.S.); Gould and Mazzeo, 1982 (U.S)). In particular, social norms about sexual behaviors are derived from same-gender peers. As such, intimate and romantic relationships, which are a key feature of adolescence, are strongly influenced by same-gender peers (Connolly and McIsaac, 2011 (U.S.)).

Considering the importance of peers as a reference group during adolescence and gender-similarity as a potential factor in this process, we may suggest that perceptions of peers' sexual activities would mediate the sexual behavior-sexual media use relationships to a greater extent when the gender of one's peers corresponds to the gender of the media user. More precisely, the sexual behavior-sexual media use relationships would be expected to be mediated to a greater extent in male viewers by perceptions of male peers' sexual activities as opposed to perceptions of female peers' sexual activities. For girls, sexual behavior-sexual media use relationships would be expected to be to a greater extent mediated by perceptions of female peers' sexual activities as opposed to perceptions of male peers' sexual activities.

Based on prior literature, we proposed testing the following hypotheses:

H4a: Perceptions of peers' sexual activities mediate the relationship between sexual behavior and exposure to music television.

H4b: As a mediator in the relationship between sexual behavior and exposure to music television, perceptions of peers' sexual activities are more important among adolescents of the same gender.

In summary, we seek to examine the mediating role of perceived peer norms in the reciprocal relationship between sexual media use and sexual behavior with attention to the possible role of gender. Figure 1 summarizes the above hypotheses.

[Figure 1 about here]

Method

Sample and Participant Selection

A three-wave panel study using an interval of 6 months was conducted among 12- to 15-year-old adolescents. Because of the relatively rapid sequence of developmental changes occurring during puberty (Mul 2004 (NL.)), a 6-month interval was established. The sample was limited to adolescents aged 12 to 15 because this age range has been described as being the most likely time for adversarial consequences when initiating sexual behaviors (e.g. O'Donnell, O'Donnell and Stueve 2001 (U.S.)).

In March 2010, survey data were obtained from nine schools from different parts of Belgium and at different schooling levels. All of the students who were present at the time of the researchers' visit completed paper surveys. The students were informed that the goal of the study was to investigate their leisure habits. To increase confidentiality, the researchers ensured that the students were unable to discuss or view one another's answers. Additionally, confidentiality was ensured by asking the students to provide their identification data on separate forms and by guaranteeing that the survey answers would be processed separately. A second questionnaire was administered in September 2010, and a third questionnaire was administered in March 2011 in the nine schools that had participated in March 2010. Respondents were asked to report on music television exposure, perceived peers norms, and sexual activeness in each wave. Based on the identification forms obtained during waves 1, 2 and 3, the respondents were tracked over time. Subsequently, each respondent was assigned a unique code to ensure that any identifying data could be deleted before the data were processed. Approval for the survey was received from the institutional review board of the host university. As is customary in Belgium, informed consent was obtained from the school head.

A total of 762 students completed the survey at baseline; 568 students (74.5%) and 515 students (67.6%) completed the questionnaires for waves 2 and 3, respectively. At baseline, 66.7% of the respondents were boys, and 33.3% were girls.

Using Pillai's trace, a MANOVA analysis revealed that there were significant differences between the adolescents who participated in one wave (N = 247) and those who participated in all three waves (N = 515), V = .069, $F(4, 653) = 12.13$, $p < .001$, $h_p^2 = .07$. ANOVA tests showed that there were no significant differences ($p > .05$) regarding exposure to music television at Time 1. However, the results revealed that the subjects participating in one wave provided slightly higher estimations of their male peers' sexual activity (M = 2.94, SD = .83) than the subjects participating in all three waves (M = 2.74, SD = .66), $F(1, 656) = 11.08$, $p < .001$. The same finding applies to the sexual activity of female peers (M = 2.73, SD = .84 vs. M = 2.52, SD = .70), $F(1, 656) = 11.24$, $p < .001$. The subjects participating in one wave also had higher levels of sexual experience (M = 3.24, SD = 3.81) than the subjects participating in all three waves (M = 1.57, SD = 2.43), $F(1, 656) = 45.42$, $p < .001$.

Measures

Music television exposure. Using a 7-point scale ranging from *(almost) never* (= 1) to *(almost) every day* (= 7), the respondents indicated how often they watched the MTV music video channel and the local channels TMF and JIMtv (see Appendix). This measure includes all available music video channels that are broadcast in Flanders, Belgium. An estimate of music television exposure was calculated by averaging the three items.

Perceptions of male/female peers' sexual activities. On a 5-point scale ranging from *never* (=1) to *very often* (=5), the respondents estimated the prevalence of 4 sexual activities among male and female peers (see Appendix) (Eggermont 2005 (Belgium); Rivadeneyra and Ward 1999 (U.S.)). More specifically, the respondents were asked how often boys/girls of their own age experienced deep kissing, nakedness with their boy/girlfriends, mutual masturbation and full intercourse. An estimate of perceptions of male/female peers' sexual activities was calculated by averaging the four items.

Sexual behavior. The adolescents were asked to report which of the following four sexual behaviors they had experienced themselves (see Appendix): "deep kissing", "touched the breast of a girl/had my breasts touched by a boy", "touched the sexual organs of my partner", "engaged in full intercourse" (*no* = 0; *yes* = 1). Each type of sexual behavior was weighted by attaching a score on a five-point scale from 0 (no sexual experience) to 4 (full intercourse) (Hennessy et al. 2008 (U.S.)). By summing the scores, we obtained an estimate of the sexual behavior of the respondents. For instance, if an adolescent had already deep kissed (Score=1) and touched the sexual organs of a sexual partner (Score=4), he/she obtained a score of 5.

Results

Descriptive Statistics

Table 1 presents the descriptive statistics for the entire sample, as well as separately for boys and girls, with regard to all relevant variables in the model. Regarding the descriptive statistics for the entire sample, music television exposure was found to have a mean level of 4.20 (*SD* = 1.92) at Time 1 and a mean level of 4.24 at Time 3 (*SD* = 1.92), whereas perceptions of male and female peers' sexual activities were found to have respectively a mean level of 3.06 (*SD* = .65), and 2.79 (*SD* = .66) at Time 2. In addition, the mean levels of adolescents' sexual behavior were 2.08 (*SD* = 3.04) at Time 1 and 3.78 (*SD* = 3.94) at Time 3. Using Pillai's trace, a MANOVA analysis revealed differences between boys and girls, $V = .075$, $F(6, 420) = 5.71$, $p < .001$, $h_p^2 = .08$. Independent ANOVA tests showed that boys provided higher estimations of the sexual activities of their female peers at Time 2, $F(1, 425) = 4.40$, $p < .05$. No other differences were found.

[Table 1 about here]

The zero-order inter-correlations between all relevant variables included in the study showed associations between exposure to music television at Time 1 and sexual behavior at

Time 3, between sexual behavior at Time 1 and perceptions of peers' sexual activities at Time 2, between sexual behavior at Time 1 and exposure to music television at Time 3, and between perceptions of peers' sexual activities at Time 2 and sexual behavior at Time 3. Among girls, exposure to music television at Time 1 was significantly related to perceptions of peers' sexual activities at Time 2. The zero-order inter-correlations for boys and girls are displayed in Table 2.

[Table 2 about here]

Testing the Hypothesized Model

The hypothesized relationships were tested using structural equation modeling (AMOS) and the maximum likelihood method. The chi-squared-to-degrees-of-freedom ratio (χ^2/df), the comparative fit index (CFI) and the root mean square error of approximation (RMSEA) were further used to determine the fit of the models. The hypothesized model indicated an adequate fit of the data and yielded a chi-squared value of 1617.617 with 446 degrees of freedom, $p < .001$, CFI = .92, RMSEA = .056, $\chi^2/df = 3.63$.

Hypothesized Relationships among Boys

The hypothesized relationships for boys are summarized in Figure 2. To ensure clarity, the measurement part is not shown. The perceptions of peers' sexual activities at Time 1 were added as control variables for the perceptions of peers' sexual activities at Time 2. Results showed that perceptions of peers' sexual activities at Time 1 were associated with higher perceptions of peers' sexual activities at Time 2 (male peers: $\beta = .58$, $B = .55$, $SE = .04$, $p < .001$ / female peers: $\beta = .55$, $B = .30$, $SE = .03$, $p < .001$). We further allowed the errors between perceived male peer norms at Time 1 and perceived female peer norms at Time 1, and, the errors between perceived male peer norms at Time 2 and perceived female peer norms at Time 2, to correlate.

Hypothesis 1 held that boys' exposure to music television would predict their sexual behavior. Consistent with this hypothesis, the results showed that increased exposure to music television at Time 1, β =.19, B = .36, SE = .06, $p < .001$, was related with more sexual behavior at Time 3. Hypothesis 2a argued that perceptions of peers' sexual activities would mediate this relationship. Although the results showed that perceptions of male peers' sexual activities at Time 2 lead to a higher score on sexual behavior at Time 3, β = .25, B = 1.28, SE = .17, $p < .001$, no support was found for a relationship between exposure to music television at Time 1 and perceptions of peers' sexual activities at Time 2. Thus, Hypothesis 2a was not confirmed. Consequently, hypothesis 2b, which argued that perceptions of peers' sexual activities would be a more important mediator in the relationship between exposure to music television at Time 1 and sexual behavior at Time 3 among adolescents with the same gender, was not tested further.

In contrast to our expectations based on cognitive dissonance theory, Hypothesis 3, which suggested that the sexual behavior of boys would lead to more music television exposure, was not supported. Hypothesis 4a argued that perceptions of peers' sexual activities would mediate this relationship. The results showed that sexual behavior at Time 1 was associated with higher perceptions of male peers' sexual activities at Time 2, β = .15, B = .03, SE = .01, $p < .001$ and to female peers' sexual activities at Time 2, β = .14, B = .02, SE = .01, $p < .001$. Perceptions of male peers' sexual activities were related to more exposure to music television at Time 3, β = .10, B = .29, SE = .11, $p < .01$.

Next, bootstrapping method was used to assess the significance of the indirect effects (Cheung and Lau 2008). Multiple imputation was performed, since the bootstrapping method does not allow the sample to include missing values (Honaker and King 2010). Bootstrapping generates a large number of samples from the dataset and estimates a 95% confidence interval (CI) for the indirect effects. When the CI does not include zero, the indirect effect can be said

to significantly differ from zero. The results from a bootstrapping procedure (1000 samples, ML bootstrap, 95% CI) revealed that the standardized indirect effect of sexual behavior at Time 1 on boys' exposure to music television at Time 3 was mediated by their perceptions of male peers' sexual activities at Time 2, *CI* = [.004, .024], *SE* = .01, $p = .001$. Hypothesis 4a could thus be partially confirmed for the boys in this sample.

Furthermore, when the model confirmed the significance of the hypothesized relationships with perceptions regarding same- and other- gender peers, we employed a procedure that allowed us to constrain the relationships with same-gender peers to be equal to those with other-gender peers. Hypothesis 4b, which argued that the mediation of perceptions of peers' sexual activities in the relationship between sexual behavior and exposure to music television would be stronger when considering perceptions of male peers' sexual activities, is supported when these tests show that the unconstrained relationships differ significantly from the constrained relationships and thus result in a better fit. Results showed that the model with an unconstrained relationship between sexual behavior and peers' sexual activities differed significantly from the model with a constrained relationship ($p < .05$). In other words, in line with hypothesis H4a, the relationship between sexual behavior and male peers' sexual activities exceeded the same relationship with respect to female peers' sexual activities.

[Figure 2 about here]

Hypothesized Relationships among Girls

The hypothesized relationships for girls are summarized in Figure 3. To ensure clarity, the measurement part is not shown. The perceptions of male peers' sexual activities during Time 1 were added as control variables for the perceptions of peers' sexual activities during Time 2. Results indicated that perceptions of peers' sexual activities at Time 1 predicted higher perceptions of peers' sexual activities at Time 2 (male peers: $\beta = .72$, *B* =

.75, *SE* = .06, $p < .001$ / female peers: $\beta = .75$, *B* = .38, *SE* = .05, $p < .001$). We further allowed the errors between perceived male peer norms at Time 1 and perceived female peer norms at Time 1, and, the errors between perceived male peer norms at Time 2 and perceived female peer norms at Time 2, to correlate.

Hypothesis 1, which claimed that girls' exposure to music television would positively predict sexual behavior, was not confirmed. Although the results showed that perceptions of male peers' sexual activities at Time 2 lead to more sexual behavior at Time 3, $\beta = .36$, *B* = 1.73, *SE* = .21, $p < .001$, no support was found for a relationship between exposure to music television at Time 1 and perceptions of peers' sexual activities at Time 2. Thus, Hypothesis 2a, which argued that perceptions of the sexual activities of peers would mediate this relationship, was not confirmed. Consequently, hypothesis 2b, which proposed that as a mediator in the relationship between exposure to music television and sexual behavior, perceptions of peers' sexual activities are more important among adolescents of the same gender, was not tested further.

Hypothesis 3 suggested that the sexual behavior of girls would positively predict exposure to music television. In accordance with this hypothesis and with cognitive dissonance theory, our results indicated that sexual behavior at Time 1 was associated with more exposure to music television at Time 3, $\beta = .09$, *B* = .06, *SE* = .03, $p = .05$. Hypothesis 4a argued that perceptions of peers' sexual activities would mediate this relationship. The results showed that sexual behavior at Time 1 was related with higher perceptions of the sexual activities of their male peers at Time 2, $\beta = .15$, *B* = .04, *SE* = .01, $p < .01$ and their female peers at Time 2, $\beta = .14$, *B* = .02, *SE* = .01, $p < .01$. Rather surprisingly and contrary to our expectations, perceptions of the sexual activities of male peers at Time 2 were associated with less exposure to music television at Time 3, $\beta = -.25$, *B* = -.68, *SE* = .13, $p <$ .01.

Once again, we used bootstrapping method to assess the significance of the indirect effects (Cheung and Lau, 2008). Multiple imputation was performed, since the bootstrapping method does not allow the sample to include missing values (Honaker and King, 2010). Moreover, we generate 1000 bootstrap samples from the dataset and estimate a 95% confidence interval (CI) for the indirect effects. When the CI does not include zero, the indirect effect can be said to significantly differ from zero. The results from the bootstrapping procedure indicated that perceptions of male peers at Time 2 mediated the relationship between sexual behavior at Time 1 and girls' music television exposure at Time 3, *CI* = [-.047 – -.008], *SE* = .01, *p* = .001. Hypothesis 4a, which argued that perceptions of peers' sexual activities would mediate this relationship, could therefore be partially confirmed for the girls in the sample. Hypothesis 4b, which proposed that the mediation of perceptions of peers' sexual activities in the relationship between sexual behavior and exposure to music television would be stronger when considering perceptions of male peers' sexual activities, could however not be tested, as no relationship was found between girls' perceptions of female peers' sexual activities and their music television exposure.

[Figure 3 about here]

Gender Differences

To test whether the hypothesized relationships significantly differed between boys and girls, a multiple-group analysis was conducted. We compared the unconstrained model (i.e., model where the parameters were allowed to vary between the groups) with the constrained model (i.e. model where the parameters were constrained to be equal across the groups). The results confirmed that the hypothesized relationships differed significantly between boys and girls ($p < .001$).

Next, a path-by-path analysis was conducted to examine whether the significant relationships were moderated by gender. More specifically, we compared the unconstrained

model with each model that included a significant relationship among boys or girls was constrained to be equal across groups. The path-by-path analysis showed that the relationship between perceived male peer norms and adolescents' music television exposure significantly differed between boys and girls ($p < .001$). Furthermore, the impact of adolescents' music television exposure on their sexual behavior as well as the impact of adolescents' sexual behavior on their music television exposure are significantly different for boys and girls ($p < .05$).

Discussion

The current three-wave panel study sought to increase insight into the reciprocal relationships among music television exposure, perceptions of male and female peers' sexual activities, and sexual behavior by exploring the mediating role of perceived peer norms, with special attention to the role of perceptions about same-gender peers. The relationships under scrutiny were combined in a comprehensive model and subjected to a stringent test of structural equation modeling. From this test, a number of conclusions can be drawn regarding the relationship between music television exposure and sexual behavior and regarding the mediating role of perceived peer norms.

Music television exposure – sexual behavior. First and foremost, this study provides some evidence for a reciprocal relationship between music television use and sexual behavior. However, our findings do not correspond with previous studies that reported an effect of media exposure on sexual behavior rather than an effect of sexual behavior on media exposure (e.g. Vandenbosch and Eggermont 2013 (Belgium)). The finding of reciprocity between media use and sexual behavior is different in the current study. This study shows that boys and girls differed significantly on the (reciprocal) relationships that were tested in this study. In particular, the influence of sexual music video content on sexual behavior occurs exclusively among boys, whereas the reverse effect is found only among girls.

Regarding the influence of music television exposure on sexual behavior (Hypothesis 1), our findings suggest that increased sexual activities may be triggered by media use among boys, but not among girls. A feasible explanation for this finding may be found in the sexual scripts that are promoted in music videos. Content analyses have repeatedly emphasized the active role ascribed to boys in sexual interactions (e.g. Arnett 2002 (U.S.); Conrad, Dixon and Zhang 2009 (U.S.); Kim et al. 2007 (U.S.)). According to social cognitive theory (Bandura 2001), this active role means that male media users, unlike their female counterparts, repeatedly observe same-gender role models who are actively involved in sexual conduct; thus, males may be more likely to be affected by such exposure than girls. Thus, the gender difference in active versus passive sexual roles in music videos may explain why only boys appear to be affected by media use. This explanation should be subject to further research.

In terms of the opposite effect, from sexual behavior on media use (Hypothesis 3), increased exposure to music television was predicted by sexual experience of girls, but not by the experience of boys. These findings suggest that music videos are especially appealing for sexually active girls, but not for sexually active boys. Further research is, however, needed to examine which specific aspect(s) of music videos attract sexually active girls.

The mediating role of perceived peer norms. The current longitudinal study, which controlled for lagged correlates and examined reciprocal relationships found partial support for the mediating role of perceived peer norms in the "inverse" relationship between music television exposure and sexual behavior (Hypothesis 4). However, results showed that boys and girls differed significantly with respect to the influence of perceptions of peers' sexual activities. More specifically, in line with our expectations, perceived male peer norms mediated the relationship between music television exposure and boys' sexual behavior. Importantly, among boys, the perceptions of male peers' sexual activities appeared to be more important than the perceptions of female peers within the relationship between sexual

behavior and music television exposure. Surprisingly, among girls, only perceptions of boys' sexual activities and not perceptions of girls' sexual activities were a significant mediator in the relationship between sexual behavior and music television exposure. This unexpected finding needs to be further addressed in future research.

Furthermore, our results did not produce support for the mediating role of perceived peer norms in the studied media effect (Hypothesis 2). A possible explanation for the lack of mediation by perceptions of peers' sexuality relates to this longitudinal study's failure to confirm a number of findings obtained in earlier, cross-sectional studies. The current study specifically questions the frequently reported influence of mass media use on adolescents' perceptions of peers' sexual activities and highlights the possibility of a reverse relationship. Despite a number of cross-sectional studies that have concluded otherwise and that have interpreted their findings as support for a "media effect" (Eggermont 2005 (Belgium); Rivadeneyra and Ward 1999 (U.S.)), frequent exposure to the sexual activities of attractive role models does not appear to teach young viewers about the sexual activities of their peers. This three-wave panel study revealed that perceptions of peers' sexual activities predict media selection (Hypothesis 4b). However, those relationships appeared to be conditional and differed significantly across gender. Among boys, the study showed a positive relationship between boys' perceptions of their same-gender peers' sexual activities and their music television exposure. This finding is consistent with the assumptions of cognitive dissonance theory (Festinger 1957), which reasons that individuals will behave in a manner that is consistent with their own cognitions and perceptions. Among girls, the results unexpectedly showed only an influence of the perceptions of *male* peers' sexual activities; and this relationship was *negative*, indicating that the impression that more boys are sexually active leads to decreased exposure to music television. This relationship may be tentatively explained by the so-called defense reaction that has previously been described in related fields

(Lanis and Covell 1995 (Can.)). Girls who believe that many male peers are sexually active may feel the need to develop a defense mechanism; Part of that mechanism may be their "rejection" of media content that tends to portray girls as sexual objects (Vandenbosch et al. 2013 (Belgium); Lanis and Covell 1995 (Can.)). As the portrayal of women as objects of lust reflects patriarchal values, media images that support this type of male dominance may provoke resistance in female viewers, especially among those who view such activity as a threat because of the high sexual activity rates of male peers (Fromme and Emihovich 1998 (U.S.); Reiss 1956 (U.S.)). This defense mechanism therefore needs to be explored further in the context of sexual media research.

Future research. The findings from this study set a clear agenda for future research. Although the reciprocity of the relationship between media use and sexual behavior has been previously investigated (e.g. Bleakly et al. 2008 (U.S.); Kim et al. 2006 (U.S.)), this study is among the first to adequately test this reciprocity by, first, using longitudinal data, second, by taking into account the role of gender, and, third, by exploring the potential mediating role of perceptions about peers' sexual activities. The findings indicate that the reciprocal relationship between media use and sexual behavior may be more complicated than previously assumed and therefore requires more consideration before conclusions can be drawn.

In particular, future research and theory is needed to further describe and explain the role of media in sexual behavior, with special attention to the role of gender as the study's findings indicate that different effect processes occur among boys and girls. Moreover, in order to adequately explain these processes, the authors plead, first, for further research on the interpretation of media content. This seems to be especially important for sexual media content as many sexual acts are implied rather than explicitly portrayed (Greenberg 1994 (U.S.)). Therefore, knowing what aspects of media messages are attended to and engaged

with (Brown 2000 (U.S.)) is necessary to understand the meaning that is assigned to sexual content and how this may explain the effects of media on sexual behavior. Second, it might be useful to address the emotional and physical arousal that is experienced when watching sexual media content. This arousal may elevate adolescents' attention to the arousing content and therefore increase storage and memory retrieval. Support for the mediating role of arousal has been found for sexually explicit online content (Peter and Valkenburg 2008 (NL.)). However, little research has explored this possibility for less explicit sexual content, such as music television exposure (Shafer, Bobkowski and Brown 2013 (U.S.)). Next, although 12- to 15-year-old adolescents are particularly vulnerable for the development of negative outcomes when initiating sexual behaviors (e.g. O'Donnell, O'Donnell and Stueve 2001 (U.S.)), older adolescents are perhaps even more likely to be affected, as Belgian and American studies have shown that the average age for sexual intercourse lies between 17 and 18 years (Avery and Lazdane 2008; Centers for Disease Control and Prevention 2006). Future studies should therefore examine the same pathways during late adolescence. Finally, sample size is an important consideration in planning future research, as larger sample sizes increase power and decrease estimation error (VanVoorhis and Morgan 2007) and would allow comparison between early adolescents of different ages.

Lastly, as regards the explanation of how sexual behavior might lead to certain media use, future research needs to incorporate uses and gratifications variables as mediators within this process. For instance, media use among sexually active adolescents might be motivated by their need to be able to talk to friends or family about sex (Bleakley et al. 2008 (U.S.)). Moreover, as adolescents might be more affected by intentionally sought out media content, taking into account this active audience perspective is particularly important (Levy and Windahl 1984 (Sweden)).

Limitations. Although the conclusions of this study may have considerable consequences for future sexual media effect research, the findings may be limited by the study's position within the Belgian context. For instance, we cannot preclude this specific context from influencing our findings as a result of a different sexual culture. However, because various scholars have emphasized similarities in media content (e.g. Vandenbosch et al. 2013 (Belgium)) and sexual behaviors (e.g. Zimmer-Gembeck and Helfand 2008 (U.S.)) among Western adolescents, the rather unexpected and noteworthy findings of this study may instead be attributed to the stringent three-wave research design and may thus still have considerable relevance for research conducted in other Western and Northern European countries and in the U.S. Our study was further limited by its focus on music television exposure. Future research may explore whether similar results are found for more sexually explicit media, such as pornographic websites. This specific focus further limits comparison with previous studies, as the majority of previous studies examined sexual content in multiple media (Bleakley et al. 2008 (U.S.)) or one dominant medium, such as television (Kim et al. 2006 (U.S.)). Moreover, this study's focus on only one specific media genre, instead of the cumulative exposure to multiple sexualizing media, might explain the unexpected findings of this study. Additionally, the study did not consider how adolescents interact with and interpret the sexual messages that are promoted in music videos. Future research may focus on these issues by, for instance, measuring how adolescents perceive the realism of promoted sexual media messages. A third limitation of the present study is the risk of question fatigue and question bias. Respondents might have been tired of filling out the same questionnaire three times (i.e. question fatigue) or tried to give consistent responses for the three waves (i.e. question bias). Future experimental studies are therefore needed to exclude the possibility of question fatigue and bias. Fourth, the present study was limited by the fact that 247 adolescents who participated in one wave did not participate in all three waves. Results

showed that those respondents who dropped out of the study were more likely to have higher levels of sexual experience, as well as higher estimations of peers' sexual activities. These results suggest that this study might underestimate the impact of music television exposure on adolescents' perceived peer norms and sexual behavior. Future studies should therefore examine these relationships in more detail

Furthermore it is important to note, when testing non-recursive structural models with feedback loops, two assumptions should be met. The first assumption is that of *equilibrium*, which entails that any changes in the systems should have already manifested their effects, leaving the system in a steady state (Kline 2005). The second is that of *stationarity*, i.e., the requirement that the basic causal structure does not change over time (Kline 2005). Although these assumptions are very demanding – and therefore often not met (Kline 2014) – it is important to acknowledge that these assumptions are prerequisites to reliably use cross-lagged panels models to test reciprocal relationships. As these assumptions were not strictly met, the study's findings should be cautiously interpreted.

Summary. The current study sought a clearer understanding of the hypothesized underlying mechanism of perceived peer norms in these reciprocal relationships. Although the study revealed somewhat unexpected findings as well as null findings, we argue that the results of the present study are relevant for future studies, because of three reasons. First, this study extends past research on sexual media effects among adolescents by conducting a three-wave panel study. Such a rigorous design is rare in this field of research and hereby raises questions about the conclusions of the previous cross-sectional studies on sexual media effects. Second, the present study highlights the need to examine the role of perceived peer norms to explain the reciprocal relationship between sexual media use and adolescents' sexual behavior. Third, in order to fully understand the reciprocal relationships between sexual media use, perceived peer norms, and adolescents' sexual behavior, future studies should to

investigate the role of adolescents' gender and examine the impact of gender differences in peer norms. Future research may frame the relationship between sexual media use and sexual behavior in a broader reciprocal context and thus devote greater attention to the role of gender within this context.

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Table 1

Descriptive statistics

	α	Min	Max	Mean (SD)	Mean (SD) Boys (66.7%)	Mean (SD) Girls (33.3%)
Age (T1)		12	15	14.07 (0.84)	14.10 (.80)	14 (.93)
Music television exposure (T1)	.84	1	7	4.20 (1.92)	4.11 (1.92)	4.38 (1.89)
Music television exposure (T3)	.86	1	7	4.24 (1.92)	4.20 (1.97)	4.31 (1.81)
Perceptions of male peers' sexual activities (T2)	.75	1	5	3.06 (.65)	3.03 (.62)	3.13 (.70)
Perceptions of female peers' sexual activities (T2)[a]	.78	1	5	2.79 (.66)	2.82 (.66)	2.72 (.66)
Sexual behavior (T1)	.78	0	10	2.08 (3.04)	2.21 (3.10)	1.81 (2.93)
Sexual behavior (T3)	.85	0	10	3.78 (3.94)	3.85 (3.93)	3.64 (3.96)

Note: [a] There is a significant difference between boys and girls regarding their perceptions of female peers' sexual activities at Time 2.

Table 2

Zero-order inter-correlations for boys and girls

Boys Girls	Music television exposure (T1)	Music television exposure (T3)	Perceptions of male peers' sexual activities (T2)	Perceptions of female peers' sexual activities (T2)	Sexual behavior (T1)	Sexual behavior (T3)
Music television exposure (T1)		.62**	.07	.06	.14**	.27**
Music television exposure (T3)	.63**		.12*	.09	.05	.18**
Perceptions of male peers' sexual activities (T2)	.15*	-.10		.80**	.39**	.46**
Perceptions of female peers' sexual activities (T2)	.15*	-.02	.81**		.36**	.39**
Sexual behavior (T1)	.28*	.15*	.43**	.40**		.69**
Sexual behavior (T3)	.25**	.14*	.58**	.58**	.75**	

Note: *$p < .05$; **$p < .01$; ***$p < .001$; Correlation coefficients below the diagonal are from boys; coefficients above the diagonal are from girls.

Figure 1. Hypothesized relationships among exposure to music television, perceptions of male/female peers' sexual activities and sexual behavior

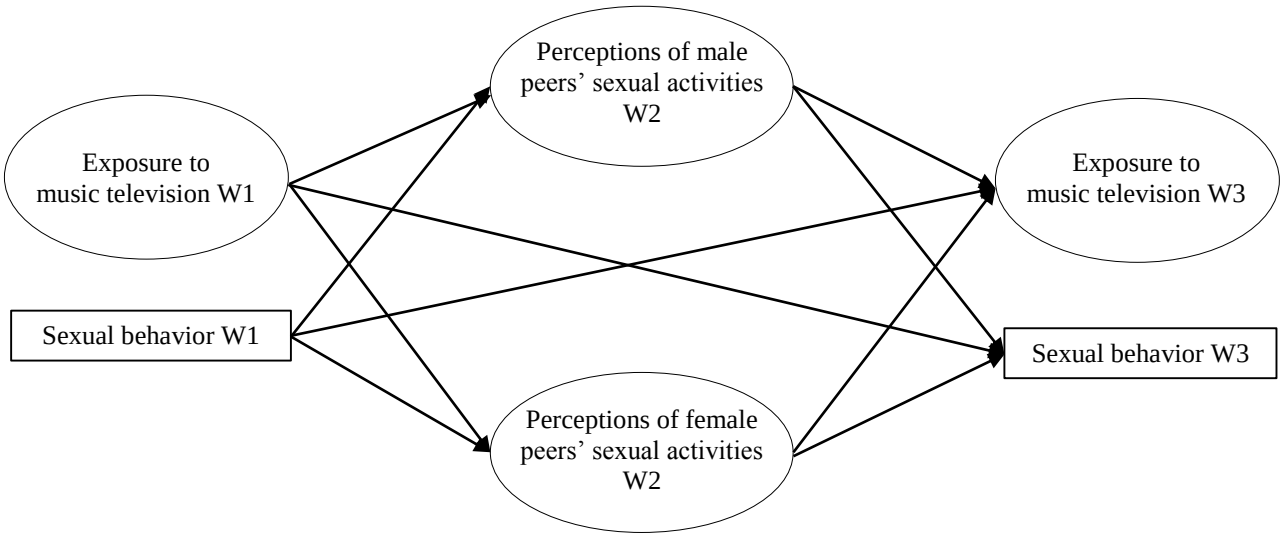
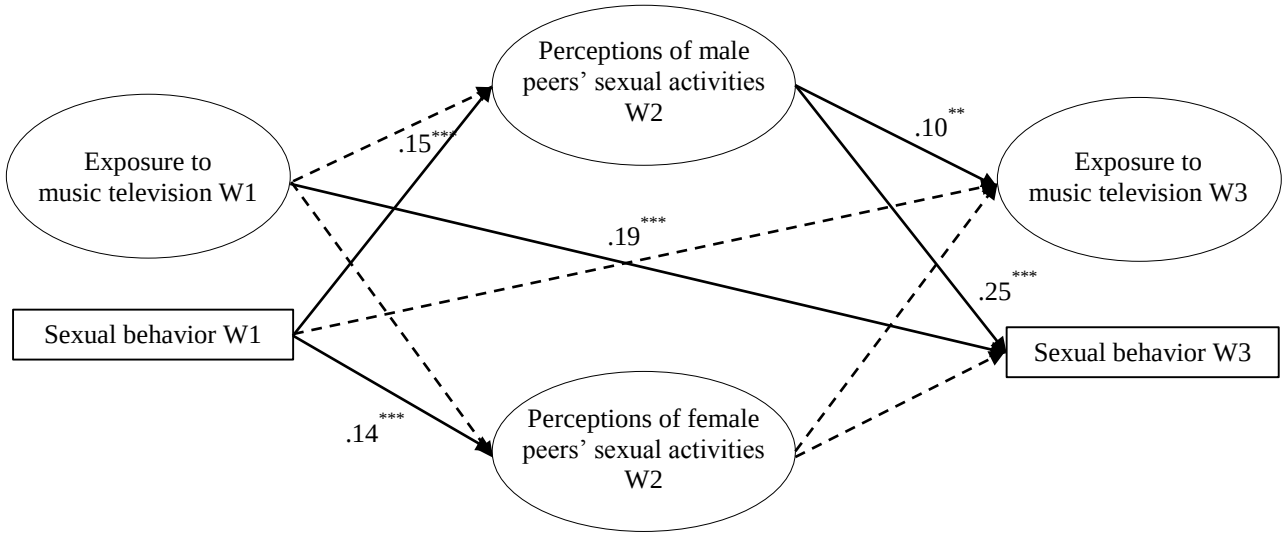


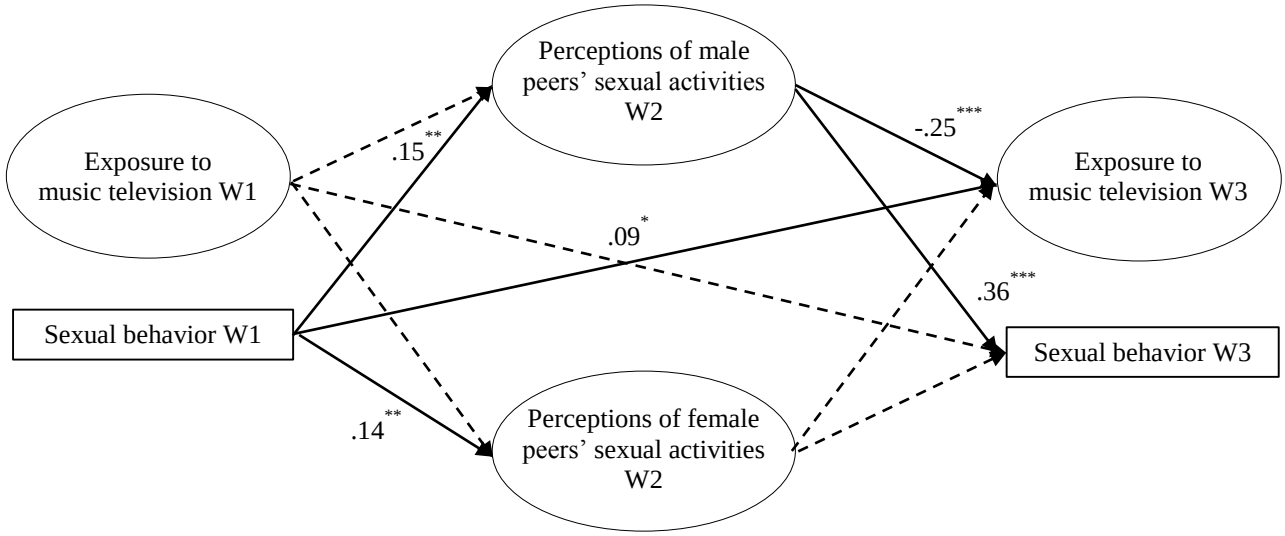
Figure 2. Final model examining the links among boys' exposure to music television, perceptions of male/female peers' sexual activities and sexual behavior



Note: The values reflect standardized coefficients; **p* < .05; ***p* < .01; ****p* < .001;

—— Significant paths; - - - - Non-significant paths

Figure 3. Final model examining links among girls' exposure to music television, perceptions of male/female peers' sexual activities and sexual behavior



Note: The values reflect standardized coefficients; *$p < .05$; **$p < .01$; ***$p < .001$;

—— Significant paths; ---- Non-significant paths

Appendix

English Translation of Scales and Items Used in the Questionnaire

Scale measuring music television exposure.

How often do you watch the following music television channels?

	Never	Almost never	1 to several times per year	1 to 2 times per month	1 to 2 times per week	3 to 4 times per week	(almost) Every day
1. TMF							
2. JIM tv							
3. MTV							

Scale measuring perceptions of **male** peers' sexual activities.

1. How often experience boys of your age deep kissing?

2. How often experience boys of your age nakedness with their girl/boyfriends?

3. How often masturbate boys of your age?

4. How often engage boys of your age in full intercourse?

Scale measuring perceptions of **female** peers' sexual activities.

1. How often experience girls of your age deep kissing?

2. How often experience girls of your age nakedness with their boy/girlfriends?

3. How often masturbate girls of your age?

4. How often engage girls of your age in full intercourse?

Scale measuring sexual behavior.

1. Have you ever experienced deep kissing?

2. Boy: Have you ever touched the breasts of a girl?

Girl: Have you ever had touched your breasts by a boy?

3. Have you ever touched the sexual organs of your partner?

4. Have you ever engaged in full intercourse?

Original Language of Scales and Items Used in the Questionnaire

Scale measuring music television exposure.

1. Hoe vaak kijk je naar volgende muziekzenders?

	Nooit	Bijna nooit	1 of meerdere keren per jaar	1 à 2 keer per maand	1 à 2 keer per week	3 à 4 keer per week	(bijna) Elke dag
1. TMF							
2. JIM tv							
3. MTV							

Scale measuring perceptions of **male** peers' sexual activities.

1. Hoe vaak tongkussen jongens van jouw leeftijd?

2. Hoe vaak zijn jongens van jouw leeftijd samen met hun vriend(in) bloot?

3. Hoe vaak masturberen jongens van jouw leeftijd?

4. Hoe vaak hebben jongens van jouw leeftijd echt seks?

Scale measuring perceptions of **female** peers' sexual activities.

1. Hoe vaak tongkussen meisjes van jouw leeftijd?

2. Hoe vaak zijn meisjes van jouw leeftijd samen met hun vriend(in) bloot?

3. Hoe vaak masturberen meisjes van jouw leeftijd?

4. Hoe vaak hebben meisjes van jouw leeftijd echt seks?

Scale measuring sexual behavior.

1. Heb je ooit al getongkust?

2. Jongen: Heb je ooit al de borsten aangeraakt van een meisje?

Meisje: Zijn jouw borsten ooit al aangeraakt door een jongen?

3. Heb je ooit al de geslachtsdelen van je lief aangeraakt?

4. Heb je ooit al seks gehad?